CLAIMS

SUB A1

1/ A cable comprising at least one optical fiber and at least one covering layer comprising a covering material including an organic compound and an inorganic compound, the cable being characterized in that said inorganic compound has a layered structure and in that said organic compound is inserted between the layers of said inorganic compound.

2/ A cable according to claim 1, in which said inorganic compound is an inorganic oxide of layered structure.

SUB A2

3/ A cable according to claim 2, in which said inorganic oxide is selected from a metal oxide of layered structure and a silicate of layered structure or "phyllosilicate".

4/ A cable according to claim 3, in which said silicate of layered structure is selected from mica and clay.

5/ A cable according to claim 4, in which said clay is selected from talc, vermiculite, kaolinite, smectite, and mixtures thereof.

6/ A cable according to claim 5, in which said smectite is selected from montmorillonite, bentonite, beidellite, nontronite, saponite, hectorite, and mixtures thereof.

7/ A cable according to claim 5, in which said clay is selected from montmorillonite and bentonite.

8/ A cable according to any preceding claim, in which said organic compound is selected from polymers, monomers, and oligomers.

SUB A3

9/ A cable according to claim 8, in which said compound is a polymer selected from: polyesters, polyethers, polyvinyl ethers, polyurethanes, polyurethane acrylates,

maleates, fumarates, polythiols, polyenes, and copolymers and mixtures thereof.

10/ A cable according to claim 8, in which said polymer is selected from: polyolefins, polybutylene-terephthalates, vinyl polymers, elastomers, silicones, and copolymers and mixtures thereof.

11/ A cable according to claim 8, in which said polymer is selected from: epoxy resins, polyesters, polyamides, polyimides, polyetherimides, polyamidimides, polyurethanes, silicones, and mixtures thereof.

12/ A cable according to any preceding claim, comprising an optical fiber surrounded by a protective coating including at least one layer constituted essentially by said covering material.

13/ A cable according to any preceding claim, including a plurality of optical fibers and an outer sheath including at least one layer constituted essentially by said covering material.

14/ A cable according to any preceding claim, comprising a bundle of optical fibers and an insulating covering having at least one layer constituted essentially by said covering material.

15/ A method of manufacturing a cable according to any preceding claim, wherein said covering material is made by the following steps:

· said inorganic compound is treated with an agent so as to ensure that it is compatible with said organic compound;

· said treated inorganic compound is mixed with said organic compound at a temperature higher than the

softening temperature or melting temperature of said organic compound; and

said material is obtained, said organic compound being inserted between the layers of said inorganic compound.

16/ A method according to claim 12, in which said inorganic compound is a clay and said compatibility agent is selected from quaternary ammonium salts, polyethylene oxides, and phosphorus-containing derivatives.